



THOMAS G. NEWMAN,  
EDITOR.

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**Father Langstroth.** when we last heard from his daughter, was very feeble and depressed in spirits. He cannot be with us very much longer, and it should be regarded as an esteemed privilege, as well as a fraternal duty, to contribute to his comfort during the short time he will linger among us.

Some years ago quite a number of apiarists subscribed to a fund creating a life annuity for our aged friend and benefactor. The time has come now for these subscriptions to be paid for another year, and we hope that every one will forward to him the amount subscribed. We subscribed \$25 to that fund, and have this week sent him the amount for the coming year. We mention this to induce others to follow at once. Address, Rev. L. L. Langstroth, 928 Steele avenue, Dayton, O.

Some few have not yet sent him the amount for the past year; let such act at once and relieve their consciences, as well as make others glad. New subscribers to the annuity are solicited.

**Devastating Floods.** waterspouts, cloud bursts, and thunder storms have lately prevailed all over the Northwest, destroying crops, ruining houses, killing live-stock, and spreading desolation everywhere. Many apiaries have been destroyed in the general ruin, but the full extent of the loss cannot yet be determined—those in Iowa, Illinois, Ohio and Kentucky have been the greatest sufferers.

**Whittier, Holmes and Tennyson,** the three illustrious "Octogenarian Poets," are discussed by George Makepeace Towle in a charming literary paper, which leads off "Frank Leslie's Popular Monthly" for July. Some admirable portraits and views illustrate it.

**Rev. Stephen Roese,** of Maiden Rock, Wis., who was recently injured by an accident, is recovering slowly, which his many friends will be pleased to learn. In a letter written on June 14, he says:

My condition is still a critical one. The bone-breaks are knitted together, and do not pain me any more, but the foot or ankle-joint still looks and feels badly, for the joint is stove in on one side of the foot, and out on the other, with the cap broken in two pieces. It is hard to lie here and see my bees swarm off for the woods, and no one to attend to them; but I must be patient and submit, as there is no one here that can handle bees, and my family fear the stings, as it poisons them badly, so they cannot go near them.

I have just received *Der Bienenvater aus Boehmen*, and from it I translate the following items for the AMERICAN BEE JOURNAL:

By order of the government of Hungary-Austria, a "model apiary" is to be established at each teachers' seminary in the country, with *Wanderlehrers* (traveling teachers) of bee-keepers' associations as instructors, for the purpose of making teachers leaders for the people in apiculture; and in so doing, add pleasure and profit to their occupation. This is an example worthy of imitation.

For the promotion of home bee-culture, the government of Baden, Germany, appropriated, in 1889, 3,000 marks; in 1890, 3,300 marks; and for 1891, 5,700 marks.

These are positive proofs that European governments do not look upon bee-keeping as a "nuisance." STEPHEN ROESE.

**Farmer's Bulletin No. 2,** issued by the Department of Agriculture, through the Office of Experiment Stations, is now ready for distribution. This Bulletin presents in a brief and practical form some of the more important results of the work done at sundry Experiment Stations. The subjects presented in this Bulletin are better cows, the effect of heat and cold on milk, silos and silage, alfalfa, and field experiments with fertilizers. The Bulletin is a handy 16-page pamphlet, prepared especially, as the title indicates, for the information of the practical farmer, condensing for its use the results given on the subjects indicated in Bulletins issued from time to time during the past year by the various Stations where these subjects have been the object of special experiment work. Application should be made to the Secretary of Agriculture, Washington, D. C. A considerable portion of the edition will also be distributed through members of Congress.

Like all other supply-dealers, we have experienced an unprecedented "rush" during this season, and as a result we have not been able to get some lines of goods fast enough to fill orders as promptly as is our custom. We are doing the best we can to satisfy all, and are shipping all the goods we can obtain the moment they come to hand. We hope to be able to clean up all orders now on hand in a few days, and then to resume our usual promptness for which we have a wide-spread reputation.

**Poor Prospect for Honey in New York.**—Our reports so far received show that the bees in central and western of New York are in very poor condition. The latest just received as these forms are closing is from Mr. W. M. Barnum, of Angelica, N. Y., and reads thus:

Bees are in a precarious condition in this vicinity, being almost upon the verge of starvation. For some weeks past they have been living from "hand to mouth," just procuring enough for their daily needs, and nothing more; consequently brood-rearing has been greatly held back. Italians are doing the best, while Carniolans are so cross that an iron-clad man-of-war could not stand before them! But "every cloud has a silver lining," and I would keep bees if they never produced another pound of honey.—W. M. BARNUM.

**The Langstroth,** and not the "Quinby" style of hives, was intended in describing the large hives used by Mr. S. J. Youngman, on page 383; and that all of his hives "have either 8 or else 16 frames each." The "L" used to indicate the word "Langstroth," looking so much like a "Q" in the manuscript, and the figures being indistinct also, it is no wonder the mistakes were made by the printer. If all correspondents would only write plainly, and spell out the words, instead of using the misleading abbreviations, such errors as the above would seldom, if ever, occur.

**Odd Sizes** of sections, brood-frames, crates, etc., are simply impossible to get made now during "the rush." If people will use anything besides the regular stock, they should have them made in the winter, and keep them on hand ready for use when needed. All dealers and manufacturers are now behind with their regular orders, and none will now take an order for a special size—so those who use such, and have not laid in a stock in advance, will have to do without them, and learn a lesson which will cost them more or less of their crop of honey.

**Bee-Keeping for Profit,** by Dr. G. L. Tinker, is a new 50-page pamphlet, which details fully the author's new system of bee-management in producing comb and extracted honey, and the construction of the hive best adapted to it—his "Nonpareil." The book can be had at this office for 25c.

**For Whom a Paper is Printed.**—It is worth remembering that no newspaper is printed especially for one person. People who become greatly displeased with something they find in a newspaper should remember that the very thing that displeases them is exactly that thing that will most please somebody that has just as much interest in the paper as they have. It takes all kinds of people to make the world, we are told, and the patrons of a newspaper are made up of the elements of the world.—*Pacific Clipper.*

## GLEAMS OF NEWS.

**While in Buffalo** recently, Mr. R. F. Holtermann visited about 15 stores and asked for honey. The clerks, in each case, called it "strained." He thus comments in *Gleanings* upon his visit to the largest grocery house in the city:

When the young man in attendance found out I kept bees, and knew honey, he asked me if the comb honey in their store was really genuine. I then read him your offer about the manufacture of comb honey, and the efforts of the American bee-periodicals to stamp out the erroneous idea that comb honey could be manufactured.

Surely, a man cannot attain to the greatest success in the sale of goods if he has no confidence in them; and surely, in that large establishment, on Main street, Buffalo, a man understanding his goods, and selecting them judiciously, could surprise the proprietor by the amount of sales which could be effected in comb and extracted honey alone; and, on the other hand, what an outlet would be secured for the bee-keeper's honey!

The extracted honey shown by this store has been packed in a large packing-house. I will not say it was impure, but it was not good; and owing to the fact that it had passed through several hands, the price was higher than would be necessary if it had passed from the bee-keeper direct into the hands of the retailer.

This matter is surely important. The next question is, "How shall it be remedied?" The question is a difficult one. If a store could be induced to subscribe for a good, live bee-paper, much could be done to educate the salesman. Bee-keepers, too, should be wide awake, and instruct the parties to whom they sell their honey, and place them in a position to refute statements injurious to the sale of honey. An instance: A customer comes in and says, "I would buy that honey, only there is so much manufactured at the present day, I fear yours may be." The clerk, who is doubtful himself, will, if he is conscientious, shut his mouth; if not, he may say, "This is not manufactured," etc. But if he can say with confidence, "It cannot be manufactured," and show there is a reward of \$1,000 offered for the manufactured article, which has never been claimed, then he is likely to convince his customers, and effect a sale.

These are questions which commend themselves to bee-keepers to answer to their satisfaction. There is a vast work to be done to educate the people about honey—its nature and uses. A few Honey Almanacs would do a valuable work in Buffalo, as well as every other city on the continent, to inform the general public. Bee-men should judiciously distribute them by thousands, and thus aid the work—build up their home markets, and create a demand for pure honey.

Frank Leslie's Illustrated Newspaper for the week ending June 14, contains the "Song of the Steeple," written expressly for its pages by Monroe H. Rosenfeld, author of "With all her Faults, I Love her Still." This song is one of the most spirited and delightful which this popular composer has produced.

**Hunting Bee-Trees.**—How to successfully discover bee-trees was once considered quite a rural accomplishment, and many a modernized bee-keeper takes great pleasure in recounting his exploits in securing his first colony of bees from the woods. There are still localities—even in our own thickly-populated country—where much interest is manifested in hunting trees containing bees, and the necessary preparation for the bee-hunter, as well as the manner of locating the tree, are described in the following paragraph, which we take from an exchange:

The outfit of the hunter for wild bees consists of a box of matches, some old honey-comb, and a small box with a draw cover, and a little comb honey in it. Proceeding on a warm, still, fair day to within a quarter of a mile from the woods, he proposes to test, and in the open field he builds a fire and heats two flat stones. Placing one of the heated stones on a convenient stump or rock, he puts on that a piece of old comb and covers it with the other hot stone, and then draws the lid of the box part way out, first placing it near the burning comb, the scent of which attracts the bees, and they alight on the comb honey. Gorging themselves, they disappear. The first ones to leave rise high in the air, but as they come thicker and faster, they take a "bee-line" from the box to their tree. The hunter notes this line by some large tree in the woods. He then closes the lid, shutting the bees, and proceeds to a spot to seek a line at a right angle to the first line. Opening the box, the imprisoned bees depart directly to their trees. Having this "cross line," he follows it up to the point where it intersects the first line, and there he finds the "bee-tree."

**The Eighth Edition** of our book, entitled "Bees and Honey, or the Management of the Apiary for Pleasure and Profit," is now published, and ready for delivery. This edition has been largely re-written, thoroughly revised, and is "fully up with the times" in all the improvements and inventions in this rapidly-developing pursuit, and presents the apiarist with everything that can aid in the successful management of an apiary and at the same time produce the most honey in an attractive condition. It contains 250 pages, and 245 illustrations—is beautifully printed in the highest style of the art, and bound in cloth, gold lettered. Price, \$1.00, postpaid.

Here are some of the earliest comments on this new edition:

"Bees and Honey" was received by us a few days ago; it is first-class, and up to the times, indeed.—Chas. F. Muth & Son, Cincinnati, O.

"Bees and Honey," by Mr. Thomas G. Newman. New, revised edition, fully illustrated. A most complete manual on the honey-bee, care and management, honey-plants, etc.—*Prairie Farmer*.

The latest edition of "Bees and Honey" is received. It is a gem in literature, and I consider it the finest work on the subject extant. The portraits are alone worth the money. The magnificent engravings are the wonder of the old-time bee-keeper.—S. J. Youngman, Lakeview, Mich.

I am glad to see the improvement in the new edition of "Bees and Honey." New editions are needed to keep up with the march of improvement, and I wish we had twice as many good books as we now have. You are wise enough to know that whatever the contents of a book, there is an added pleasure in having a good feel to its pages.—C. C. Miller, Marengo, Ills.

When turning the leaves of my copy of the new edition of your book, entitled "Bees and Honey," I was much pleased to find in it the portraits of so many of the leading apiculturists, and unexpectedly found my own among them. I am sure I can never pay you for the honor you have done me.—Eugene Secor, Forest City, Iowa.

We are in receipt of a new and revised edition of "Bees and Honey," by Thomas G. Newman, of the AMERICAN BEE JOURNAL. Mr. Newman is thoroughly familiar with his subject, and with the aid of 250 illustrations gives this work a highly useful and practical treatise on bees and kindred topics. We notice portraits of several of the *Stockman's* valued contributors in the gallery of noted bee-men.—*Nat'l Stockman*.

The eighth edition of "Bees and Honey" is received. I must say it is the most extensively illustrated, neatly printed, and beautifully executed of the works now published on apiculture. It is a perfect storehouse of valuable information in our art both ancient and modern, and is highly creditable to the author. What a herculean task to get out such a book, and all for the sum of one dollar. I prize the book very highly.—Dr. G. L. Tinker, New Philadelphia, Ohio.

A new (the eighth) edition of the well-known work, "Bees and Honey, or the Management of an Apiary for Pleasure and Profit," thoroughly revised and largely re-written, is sent to us by Mr. Thomas G. Newman, author and publisher, 246 East Madison Street, Chicago. It is a duodecimo volume of 250 pages, adorned with a great number of illustrations (including portraits of all the chief students of the bee, living and dead), and neatly bound in cloth. The price is \$1.—*Country Gentleman*.

I have carefully examined the revised edition of "Bees and Honey," and I find it, like everything else which comes from the office of "the old reliable" AMERICAN BEE JOURNAL, "fully up with the times." The painstaking care with which all your work is done, is here manifest, reference being made both to the subject matter and the mechanical execution of the work. It is a valuable addition to the literature of bee-keeping, and I cheerfully commend it to any one wishing a practical manual of the art.—N. W. McLain, St. Anthony Park, Minn.

The new edition of "Bees and Honey" is received. It is an excellent work, with nothing lacking in perfection and beauty, and will speak for itself to the mind of every reader. It is well worthy of a large circulation. I shall use it as my daily hand-book, and recommend it to bee-keepers with whom I come in contact. It is cheering to notice the countenances of the many masters of the art, whose able articles aid apiculturists through the columns of the AMERICAN BEE JOURNAL.—Stephen Reese, Maiden Rock, Wis.

The 8th edition (revised) of "Bees and Honey" is on my desk, and a gem it is; printed on paper of the finest finish, and with the clearest of type, fully up to the times, profusely and beautifully illustrated—making it, as an album alone, worth the dollar charged for the book. In answering the many inquiries as to the best bee-books, I shall be proud to place it at the head.—Geo. E. Hilton, Fremont, Mich.



**Figs of Thistles.**

Oh, ye, with hurried steps and careless,  
Who crush the fair, sweet flowers of spring,  
Think you, in autumn, cold and cheerless,  
They'll sweetest perfume round you fling?

Think you the harsh words rudely spoken,  
And thought as "trifles light as air,"  
Will heal your wounded heart, when broken  
And crushed by woes you cannot bear?

Think you, the early friends of childhood,  
Who spring about our path like flowers,  
As sweet and pure as from the wildwood,  
And nourished by soft April showers—

Will love us when the shades of evening  
Are falling fast round heart and brain,  
If in our youth we, thoughtless, leave them,  
Nor seek their friendship to retain?

O, ye who pluck the apple-blossom,  
Its subtle fragrance to inhale,  
Think not pure, spotless fruit to gather  
From withered blossoms cold and pale.

—PATSY SHAMBURGER.

**QUERIES and REPLIES.****Extracting from Shallow Combs Built from Starters.**

*Written for the American Bee Journal*

QUERY 712.—If bees are allowed to build comb in frames  $4\frac{1}{2}$  inches deep, with only a 1-inch strip of foundation for a starter, can the same be extracted without breaking the combs?—New York.

Yes.—M. MAHIN.

Yes.—R. L. TAYLOR.

Yes.—J. P. H. BROWN.

Yes.—G. M. DOOLITTLE.

Yes.—MRS. L. HARRISON.

Yes.—DADANT & SON.

Certainly.—A. B. MASON.

I think so.—C. C. MILLER.

Yes. The bees will fasten the whole to the sides.—A. J. COOK.

Yes, except when the combs are new and tender.—EUGENE SECOR.

With ordinary care, you will not break a comb.—H. D. CUTTING.

Yes, if firmly fastened along the entire bottom.—WILL M. BARNUM.

Certainly, if ordinary care is used in running the extractor.—C. H. DIBBERN.

That is owing to how well the bees have filled the frame, and how hot the weather is when you handle them. It is dangerous.—J. M. HAMBAUGH.

Yes; and it can be safely done with a deeper frame, if the wood composing the frame is not over one inch wide all the way around. All closed-end brood-frames should be wired, but a plain Langstroth brood-frame not over 7 inches deep, needs no wire.—G. L. TINKER.

Yes, if care is used. I have now some frames of comb that were built before foundation was thought of, that can be used to extract from, and I find no difficulty in using them, although 9 inches deep.—J. E. POND.

O, yes, without the slightest difficulty. I have hundreds of combs built in the way you mention. Were it not for the tendency of bees to build drone-comb in these shallow frames above the brood-nest, I would have hundreds more of them built

from starters; but as I prefer all-worker combs, I use full sheets of foundation.—G. W. DEMAREE.

Yes, sir, and that, too, without ever inverting the frames in the hives. On the other hand, if the frames are inverted, the bees will build them solid full of comb, and be so strong that you can throw them around the apiary as you would pitch quoits, to say nothing about extracting honey from them; but you can extract from them safely without their ever having been reversed.—JAMES HEDDON.

Certainly. The bees will fasten it and make it secure, if they have a good chance at it.—THE EDITOR.

**CORRESPONDENCE.****SPACING COMBS.****How Combs are Spaced in Box-Hives, etc.**

*Written for the American Bee Journal*

BY S. A. SHUCK.

On page 365, Dr. C. C. Miller says: "I think that it would be a favor to the fraternity, if a number would report in the AMERICAN BEE JOURNAL as to the distance from center to center of the central combs in a box-hive."

It has been several years since I measured the distance of combs in box-hives; but the facts concerning the matter are as important, perhaps, as if the measurements had just been made.

As the combs in box-hives are very seldom built exactly straight, it is natural to expect them to vary in distance from center to center. My observations have shown, too, that there are considerable variations of this distance; even at different points of the attachment between any two combs, this variation is found.

In computing the entire space by the number of combs it contains, it is shown in the aggregate that  $1\frac{1}{2}$  inches is the rule, and almost without exception. This includes drone and store comb, which, in many instances, is considerably over  $1\frac{1}{2}$  inches. This shows that the worker-combs do not average  $1\frac{1}{2}$  inches.

For the past ten years I have used 10 frames in hives  $14\frac{1}{2}$  inches wide. Allowing  $\frac{1}{2}$  of an inch for the extra space on one side, this gives one and two-fifth inches from center to center. However, during the time in spring when I want all the brood I can get, I space the combs so as to give  $\frac{1}{2}$  inch or more space on the outside of the side combs.

Both wide and narrow spacing can be made profitable at times, by a little judicious management. In this locality, it is not an uncommon thing to have pleasant weather in February. If the bees have an abundance of honey,

brood-rearing is pushed along at a lively rate, and, if allowed their own way about things, the hives are overflowing with bees by May 1, and, as a rule, no honey until June.

If, however, when this fine weather occurs so early, one comb is removed from each strong colony, and the remaining nine combs are spaced so as to fill the hive, the bees have more room to cluster, and occupy less comb, and consequently brood-rearing is not pushed along so rapidly, and the stores are not consumed so quickly. The bee-keeper who has never tried this (and then, when the time comes for encouraging brood-rearing, he readjusts the combs, spacing them as closely as possible, and replacing the comb previously removed), will be very agreeably surprised, not only at the apparent sudden increase of bees in his hives, but the very rapid increase of brood also.

The effect of "spacing" on the swarming disposition, is very slight. Observation inclines me to believe that wide spacing tends more to encourage swarming than does narrow spacing, where surplus room is given at the right time.

Close spacing tends to force the bees into the surplus, if for no other reason than to give room for the necessary operations of the nurse-bees in caring for the brood; while wide spacing gives ample room for a large number of bees between the combs, and in cool weather their presence is actually required to keep a proper temperature, and large numbers of bees in the brood department are a great incentive to the swarming impulse. However, swarming is Nature's only method of increase, and the non-swarming or excessive swarming tendencies are freaks of individuality, and can be greatly increased or diminished by careful selection and breeding.

Liverpool, Ills.

**GOLDEN-ROD.****Does it Yield Honey?—Methods of Queen Introduction.**

*Written for the American Bee Journal*

BY JACOB T. TIMPE.

I have carefully read the articles *pro* and *con*, as to the value of golden-rod as a honey-producing plant. The very same subject was brought up at the last meeting of the Central Michigan Bee-Keepers' Convention, which caused a lively discussion. The majority most emphatically declared that it did yield honey plentifully, at least in the most of the seasons. I have yet to see, in 14 years, but what the bees

work on it more or less every season. I would not say that it yielded bountifully every season—no honey-plant will yield honey every season. White clover and basswood will fail, and would it be fair to come out boldly and say, "I do not think that there was one ounce of clover or basswood honey ever gathered?" No; nor is it fair to make this assertion about golden-rod.

One of the members remarked that "all the members present should carefully observe it this season, and then see for themselves as to whether it did yield or not." As he is not far distant from me, he made the remark that he had passed by my locality, and could not see a bee on golden-rod; yet he would not allow me to verify my statement. Locality may have some effect on it (but all about him, on all sides, it did yield, the past season); but is it fair to condemn it just because of one locality not yielding nectar?

I could not help making the remark that he would not believe me (or us) one bit more, by our carefully observing it another season, to be again contradicted, and probably be continued for another year's careful observing.

The party also claimed that what bees he did see on golden-rod, felt ashamed for being there, claiming that they would crawl about so slowly, as if they were almost frozen in a warm autumn day. Now, I would like to ask, which bee gathers the most honey, the one that stays on one blossom and finds employment for one minute there, or the other one that runs rapidly over the flowers and visits 25 in a minute? Most emphatically, the one that holds its proboscis in the nectaries several seconds.

When I see a bee running rapidly over a clover blossom, I calculate that it is not finding much. I have yet to see a bee ashamed in any of its undertakings—at least mine have never showed anything like being "ashamed."

#### INTRODUCING QUEENS.

I hardly approve of Mr. Bunch's way of introducing queens, as given on page 383. I could hardly advise any one to not look into their hives for 3 or 4 days, or even a week. Contrary to the advice of others, I always examine my colony as soon as I think that the queen has been released, and I have never had any fatal luck with them. I have never lost but one queen, and I think that this was on account of untimely assistance. Of course, I always go armed, for fear that I might find her balled.

I would like to ask those who advocate letting the bees alone for several days, Are you sure that balling was caused by opening the hive too soon? If you had cattle in a field in which

there was a miry spot, and one of them did not appear, would you trust to Providence to help it out? or would you render aid? Now we will liken a colony of bees to the cattle—balling to be the dreaded spot. Could you leave a valuable bee for 3 or 4 days, when she might be in a ball of bees? I believe in rendering aid if I can, and at the earliest date, too.

Now in regard to introducing: I think that the old "Peet process" of letting the bees gnaw the queen out, is the best, as in my experience the bees release the queen too soon with the "candy" plan. The only bad luck that I had with queens, was with the "candy" plan, where in 10 hours (probably less) I found the queen dead on the bottom-board. Would leaving the colony alone for 3 or 4 days have brought her to life again?

I will say that if the apiarist knows his business, and will be very careful, there is but little risk to run; and I would further say that it might be well to be prepared with smoke to get the queen out of the ball, if necessary. At least, this is my opinion of them, and my ways of handling them.

Grand Ledge, Mich.

### BEE-KEEPING.

#### Is it Practicable or Desirable for the Average Farmer?

Read at a Nebraska Farmers' Institute  
BY MRS. J. N. HEATER.

Upon receiving the request for an essay on this subject, I was somewhat surprised that it should be considered a question, as to whether the keeping of bees is practicable or desirable for the average farmer, since bee-keeping is strictly an agricultural pursuit, and of the utmost importance to the farmer, if the honey consideration were not taken into account at all.

Man, in his selfishness, fosters those pursuits which give promise of profit or pleasure to himself, and according to Samantha Allen, must be reasoned with by way of his stomach; so, with visions of quantities of honey, he makes his investment in bees, not knowing he is to receive another and perhaps greater reward. To be a bee-keeper it does not follow that one must be a master or specialist, any more than he must be a fancier in order to raise his own fowls.

In my opinion there is no more fitting place on earth for the keeping of bees, than on the farm; providing, of course, that the farmer—or his wife—has the time and inclination to give them proper attention. One gentleman living near town, bought a single swarm, and in one year's time found

himself the possessor of 4 colonies of bees and 40 pounds of surplus honey. Another farmer bought one colony, and at the end of 3 years, had 11 colonies of bees, and an abundant supply of honey during the whole time, for a large family. These are not cited as extraordinary cases, by any means, but simply to show what ordinary farmers in our midst are doing, who make no pretensions to giving their bees special care. I might refer you to others, who are giving more time and attention to this branch of their work, and making a grand success of it.

Let no one suppose, however, that bee-keeping is a pleasant pastime, which lazy and incompetent people can take up with success. The man who always drives poor horses and finds winter storage for his farm machinery in the open field, has no business with bees; but any man or woman who will learn the business and begin wisely, can find in bee-keeping with farming, a healthful pursuit; and supply their own tables at least, with a pure, delicious article of food to take the place of the adulterated sweets which they are forced to receive at the stores.

This, however, is only an individual benefit, except as the possessor may choose to share the spoil with his fellow man, but there is another benefit which the neighbor shares equally with the owner, for our little pets, though seldom accorded the compliment, are direct benefactors to the florist, horticulturist and farmer—in fact, to any one who wishes to produce fruit, grain or vegetables, by their constant visits from blossom to blossom, carrying the pollen from the anthers of one to the stigmas of another of the same kind; and any one with the most meagre knowledge of botany will understand that this is the plan of the Creator, for the reproduction of the vegetable kingdom; else, why would flowers depending on insect fertilization be so cunningly constructed that, in order to reach the honey, the insect must forcibly brush against the pollen, thus dusting itself in one flower and carrying it to another, where the process is repeated?

In this connection we plainly see wisdom in the instinct with which the honey-bee is endowed, to visit the same species of plant or flower until a full load of honey is obtained. Other insects do, indeed, play some part in this important work, but no other honey and pollen gathering insect increases with such rapidity in the spring, before fruit trees and small fruits blossom.

An excellent authority places the number of colonies of bees in the



United States, in 1881, at 3,000,000. During the working season the average number of bees per colony is from 35,000 to 40,000. Who, then, can estimate the benefit to the crops of fruit and grain, derived through the agencies of such myriads of little marriage priests among the flowers? This alone would warrant the keeping of bees in many localities, as, indeed, is often done.

A fruit-grower of Madison county, Neb., bought a colony of bees solely for the purpose of having them fertilize the blossoms of a half-acre of strawberries of a certain variety, and was repaid with a fine setting of fruit, while in previous years he had only obtained a partial crop.

Charles Darwin, that eminent English naturalist, whose careful experiments have added so much to our knowledge of plants and insect life, states in his work on "Cross and Self-Fertilization," that out of 125 species that he covered with netting, excluding insects when in bloom, more than half were entirely sterile, or produced less than half the number of seeds of the unprotected plants.

I will cite only two of the many so treated by him, namely, white and red clover. I quote:

Several plants were protected from insects, and the seeds from ten flower heads of these plants, and from ten heads on other plants grown outside the net (which I saw visited by bees) were counted, and the seeds from the latter plants were very nearly ten times as numerous as those from the protected plants. The experiment was repeated the following year, and twenty protected heads now yielded only a single aborted seed, whilst twenty heads on plants outside the net (which I saw visited by bees) yielded 2,290 seeds. Of red clover, 100 covered heads gave nothing, and 100 heads uncovered produced 2,720 seeds.

Our fruits are fully as dependent upon insect life as are the clovers. For instance, take the apple; call to mind the five beautiful, pinkish-white leaves, with a cluster of yellow, pollen-bearing stamens in the centre. Then that each blossom carries five stigmas, and each stigma is connected with the core of the fruit.

At the proper time the tiny nectaries are filled with nectar, when the flower is prepared to receive the pollen-grains from the dusty bees as they are flitting among them, intent only upon their own crazy greed for honey, wholly unconscious of the wonderful part they are playing in a still more wonderful nature, for the nectar is never secreted until the pollen-grains are ripe and ready for use, when it slowly oozes forth each day—a constant bait for the bees until the pollen is ripe and gone. But as we have observed, there are five of these stigmas, and without a distinct fertilization of each one sep-

arately, an imperfect fruit is formed which in most cases constitutes the windfalls. Opposite the hollow cheek on an apple will be found miniature seeds, showing that an imperfect fertilization had taken place, if any at all, in that particular pistil. The apple being one of a large class of blossoms in which the anthers and pistils do not mature at the same time, self-fertilization is impossible, and a cross must be obtained from another blossom of the same species of plant.

Gooseberries, currants and raspberries are also largely indebted to insects for the fruit they bear, and, in the last two, undeveloped parts are often found due to imperfect fertilization, as in the apple and clover. It has been stated that unless we have a few hours of sunshine when early cherries are in bloom, we shall have no cherries at all, and we frequently have a season when cold rain-storms so prevent the bees from getting out, that not a cherry is produced.

Our prairie grasses are rapidly disappearing under the advancing cultivation of all available land, and in many localities hay and pasturage is already becoming a subject for serious consideration. Tame grasses must supply the want, but the question is, from which kind may the greater benefit be derived? I need not mention the superiority of the clovers over Hungarian, timothy, millet and red-top in regard to richness of hay, building up exhausted land, etc.; but I do wish to call your attention to the fact that with any of the clovers, still another crop may be obtained—of delicious nectar. Do not misunderstand me; this is not intended as an advertisement of bees, but the fact is indisputable that in order to secure fertilization of the clover blossoms, we must depend upon insect agencies.

Not all strains of bees are able to work on the red clover heads, owing to the depth of the floweret cup, but the bumble-bee and the Italian hive-bees having longer tongues will work on it, and especially on the second growth, which you all know is your seed-crop, though it may not have occurred to you that the very reason the second growth yields the crop of seed is because the flower-heads are smaller, and the cups shorter, making it possible for the insects to accomplish their work.

A few years ago our common red clover was introduced to Australia, and it made a most rapid growth in that warm, rich soil, but they were unable to raise one bit of seed. After trying for sometime in vain, it was suggested that bumble-bees were required to fertilize the bloom. Some nests were accordingly shipped from

the New England States, and the result was considered wonderful, for seed was then raised without trouble. But the clover spread faster than the bumble-bees increased, when the same difficulty was again experienced; and in 1888, a Mr. McDonald, of Lexington, achieved prominence by his endeavor to secure \$10,000 worth of Kentucky bumble-bees to be shipped to Australia.

Having shown the utility of the honey-bee in producing surer, larger and better crops, may it not safely be considered an advantage to have bees at work on every farm? In our Eastern States one is almost as certain of finding a number of colonies of bees on every farm, as the indispensable pig-sty. Certain it is, that the long row of white-painted, old-style box-hives, and the proverbial biscuit that "mother made," furnish some of the sweet memories of our own childhood days.

Columbus, Nebr.

## EARLY SWARMS.

### A Lady's Report as to the Condition of Her Bees, etc.

Written for the American Bee Journal  
BY KIT CLOVER.

I think that I shall have to report my Carniolan bees. I put 5 colonies into the cellar last winter, following an old bee-keeper's advice by placing the hives flat on the bricked floor. I had no idea that mice could get in at the entrance of a hive, but I have since found that they can.

The winter was very warm, and the bees, by spells, were very noisy. I could not understand it, as they were perfectly quiet on some of the warmest days, and only one colony at a time would set up the angry roar with a stray bee or two tumbling about on the alighting-board. I think now that the trouble was that they had been visited by mice, for when taken out in the spring, there were heaps of the fragments of half-eaten bees under each alighting-board.

I stuck in a pin, right there—not into the mouse, however, as I would like to have done, but in my experience map. I shall put wire-netting over the entrances the next time.

On March 21 I took out the bees, having learned that bees can be moved in perfect safety by putting a wet rag over the entrance. This does not make them angry, or anxious to get out, but seems to quiet them.

Soon after getting the hives out, the one heavy snow-storm of the winter came, and some of the hives were drifted under. The storm coming

from the east, blew directly into the entrances. I covered them with boards, but on the day after the storm, I climbed through the drifts and dug the ice out of the entrances, with a hair-pin.

As I could not open the hives for sometime, I did not know but that the bees might be hungry, so I fed them a little. When it grew warm, they dragged out quite a lot of dead bees.

Between storms and mice, I was afraid that my colonies would be very weak, but later, when I opened the hives, I found lots of honey, and quite an amount of bees, with brood already capped.

By the way, I have fed rye-flour every warm day all the spring, and mine and my neighbor's bees would carry away a pint in half a day.

During fruit-bloom we had very little time that bees could work, as it rained almost every day, but one colony of mine filled and capped every empty cell, even building and filling comb at the ends of the brood-frames.

On May 14 a swarm came out, and though I thought I cut out every queen-cell except one, the same colony cast another swarm on May 26. I opened the hive and found a half-dozen new cells, and one from which the queen was cutting. I waited for her, and welcomed her. O, but the queens are such little beauties! Then I took every possible queen-cell out. Now, will some one tell me how many days later I dare clip her wings, or must I wait until I find eggs? In that case she will have plenty of time to swarm, if she chooses, as I will not open a hive during the present dearth of honey.

On May 25, another first swarm came out, and Tom—I may as well introduce you to Tom Clover—took his first lesson in bee-keeping by going up into a tree after the cluster. Perhaps I might add, that he didn't get it. He had the bees in my big, covered bread-pan, when away went the cover, the ladder broke under his feet, he caught an upper round which broke, and down went bees, pan, and all, although Tom caught lower down on the ladder.

Then a bee-keeping neighbor climbed the tree, and shook the cluster into a four-gallon pail, with fitted cover, and—they are doing well. But I notice that the bees uncapped every bit of honey in the old hive before going.

Last night, as I went to feed the chickens, I bethought myself that we feed the horse, the cow and the calf—even the fowls—and why should one be so very stingy with the busy little bees, as to let them go hungry? So I put a pound section into each surplus case, and gave the new colonies some sugar syrup in feeders at the entrance.

I had put on the surplus-cases about the middle of the month, to prevent swarming, if possible. The bees just poured up and filled them, and began pulling out combs.

Just now there seems to be a complete dearth of honey, and I notice they cut now and then a little hole into the foundation.

The hives of my colonies, before any of them swarmed, were just simply packed full of bees—so full that I do not see how they all managed to live in there.

I have questioned every bee-keeper near me, and except one colony of blacks, kept on the sand near the river, I have heard of no other swarm issuing this spring. Do mine swarm early because they are Carniolans, or because I fed them rye-flour, or just "O, 'cause?"

One colony, in which I found a surplus of drones, and cut-down drone-cells, thinking I would put on a drone-trap immediately, began killing drones the next day, and killed every one. I supposed that it was because there is no honey coming in.

In early spring, I had one colony that carried out sick bees, somewhat swollen, and a shining black. They seem to have gotten all over it now. What is the disease? What is its cause? and what its cure?

Dubuque, Iowa, June 2, 1890.

## QUEENS.

### The Rearing and Shipping of Queen-Bees.

Read at the Ohio State Convention

BY MISS DEMA BENNETT.

I do not feel myself competent to undertake anything of a discourse on scientific queen-rearing, but I will simply describe my way of doing, and some of my opinions, in a very unscientific way.

I want a linen hat, a thin black veil, a good smoker, and plenty of dry fuel for it. I have a tool-box with a claw-hammer, two or three sizes of small wire-nails, and some large ones; pins and pin-cushion, a knife with two blades, an oil-crayon, pieces of clean broken sections for tablets, and tin-tags for marking the hives; a turkey feather, a provisioned cage a tin box for matches—an apartment for putting pieces of comb and wax—all in this box. Besides these there should be a honey-knife and extractor.

I have never found it necessary to have a work-room for handling either bees or cells, although I have both a work-room for making foundation, and a fancy bee-house with wire-screen

doors, on the edge of the yard, where there are from 50 to 100 nuclei in the summer time.

The hive for the nucleus should be one that will take the frames in general use in the apiary, so that they will be interchangeable. I prefer the Langstroth frame, and as a chaff hive is too heavy, as well as expensive, I would use Simplicity hives; they are valuable property, and can be used for storing frames of comb or sections, when not in use in the yard, and, if one wanted to go out of the queen-rearing business, there would not be a lot of unsalable boxes on hand.

The frames should be of wood, wired and filled with foundation, and previously drawn out, or combs which are securely fastened at the edges. This is important, for in looking for the queen, or eggs, or in shaking the bees off, one is likely, if not extraordinarily careful, to tip out the comb, honey, bees and queen in a conglomerate mass, into the hive or on the ground, as the case may be.

There should be two adjustable division-boards for each hive, arranged so that there is a bee-space under each side. This saves trouble in picking up any bees that may be brushed off.

For covering the frames, use enameled cloth; over this, a burlap cushion filled with forest leaves; it is very essential that nuclei be kept warm, and there are very few nights when it is not better to use them. In case the cushion is used with the Simplicity hive, it would need to be a two-story hive. The cover should be tinned and painted to make it absolutely waterproof.

For the mother-bee I prefer a chaff hive, because quiet is insured under all circumstances of wind and weather. It should be fitted up as I have mentioned, except the frames, part of which should be of foundation without the wires, about two-thirds of the depth of the frame, and already drawn out. Drive two long wire-nails into each side of the chaff hive directly over the rabbets, and near the ends, so that they will slip in when not in use, and draw out when wanted to hang frames on, so as not to risk losing the queen by setting the frames out on the ground. There should be an alighting-board fastened at the entrance to every hive, and where queens have clipped wings, it should be long enough so that they will not fall off the end of it, if a swarm comes out, and crawl under and get lost.

#### WHAT THE QUEEN SHOULD BE.

The queen mother should be a well-developed queen of whatever race or combination of races one may choose—I prefer a pure Italian strain, and a



queen in her second year. For the trade I would use only imported Italian queens. By getting new queens every year, there would be no danger of inter-breeding. I do not want a queen so unsatisfactory to the bees that they are trying to supersede her, either because she is too old or unprolific, or for some unknown reason; for I believe in the law of heredity in bees, as well as in man or the lower animals, and I do not think it possible (Mr. Doolittle to the contrary, notwithstanding) for a queen of the latter sort to produce as hardy, prolific queen-progeny as the former.

As soon as the apiarist sees any drones, the apiary should be looked over, and the drones in each hive graded; stimulated by feeding where you see the best ones, and destroy all others by cutting out drone-brood and replacing it with worker-comb. By this time we have received notice that the imported queen will be here very soon, and as I cannot afford to take any chance of losing her, I am very careful to make the right preparation to receive "her majesty."

I pick out a wired frame containing some honey and hatching brood, and one of worked-out foundation without wires. By marking the latter "empty-4-31," on top of the frame with a crayon, I can tell how old the eggs are when I take them away. I either pick up one by one, or else shake into a tin boiler (the old bees will fly away) young bees enough to comfortably cover the two combs, and empty them on top of the frames.

When the queen arrives, I clip her wing, to prevent her flying away, destroy her attendant bees, and introduce her to her new home by letting her run down off of the top of the frame, keeping watch to see how she is received. I have never experienced any trouble in this way, and in one instance, the queen had commenced to lay in less than an hour. If the bees had not received her, I should have put her into a combined shipping and introducing cage, to be released at their pleasure. I would not advise this trouble of getting only young bees for a nucleus, except in the case of a very valuable queen whose time was precious.

#### PREPARING FOR CELL-BUILDING.

One of the strongest colonies in the yard should then be prepared for cell-building, by taking away the queen, and distributing the unsealed brood among weaker colonies, leaving only three or four frames of sealed brood and honey.

I now look into the hive of the imported queen, and if there are eggs in the marked frame, I look for the

queen; if she should be on that frame, I take a small, soft twig, and place it so that she will catch hold of it with her feet, and lift her carefully off to the other frame, then hang the frame of eggs on the wire-nails in the side of the hive, that were driven for that purpose; put in another frame without wires, and with a turkey's-feather (I have found nothing better) brush the bees off and close the hive.

Take the frame of eggs and cut the bottom of the comb close to the cells containing eggs, and if there should be many eggs in the center of the comb, cut out one or two triangular pieces with the point at the top of the cut, leaving eggs around the opening, as they are much more likely to build queen-cells on the edge than in the solid comb. The pieces can be used for patching, and as I do not value this kind of a frame for any other purpose, I do not care how much they are cut.

Mark the top of the frame with the name of the queen applied to the eggs, giving the date, as "i-e-5-1," meaning that they are "imported-queen's eggs, May 1," which I consider the right time to begin, and Sept. 1 the latest to continue to "set" eggs for cell-building.

I use the oil-crayon for marking frames and tablets.

Put the frame of eggs in the center of the colony you have prepared for cell-building, leaving the space between it and the adjoining frames a little larger than for other frames, and unless honey is coming in freely, give them a quart or two of thin feed in an atmospheric feeder, inside the hive, and cover with a cushion to keep them warm.

About the fifth day after, open the hive, and if there should be any double cells started, with the point of a knife remove the larva from one, and break down the cell. I think that this is much easier than to fuss with picking out eggs with a brimstone match, and shaving combs, cutting into strips, which must be dipped into a "mixture of two parts rosin and one part bees-wax;" "being very careful not to overheat it, as it will destroy the eggs in the cells if used too hot, and if too cold it will not adhere properly;" "pressing it with the fingers gently into place, taking care not to crush or injure the cells in so doing," *a la* Alley; or making "wax-cups" with "three forming-sticks, a notched block, a dish of cold water, a lamp with a dish of wax on top, an ear-spoon for scooping up the royal jelly, the stick to place the royal jelly in a wax-cup, and the tooth-pick for transferring the larva" —after the Doo-little plan. (I think that is a misnomer.)

On the ninth day break down all unsealed or small mis-shaped cells if there should be any such, and count the number of the cells left. On the tenth or eleventh day, form as many nuclei as there are cells, by dividing this building colony, and if necessary, divide some of the weaker colonies in order to make the number, giving to each one a frame of unsealed brood, marking the frame "c-e-5-11" (common eggs); also give a frame of honey, being sure that there are bees enough to cover the brood well.

I like a good-sized nucleus, as I think the queen gets to laying in better shape than in a very small one, and if I ever find a queen laying several eggs in one cell, I conclude that she has not had half a chance; and if I can increase her company, she will get to laying all right.

In making nuclei, if necessary to divide a colony, always move the queen, as the bees will stay better. I have never, in making nuclei, shut bees up or carried them to a dark room or cellar, but I do make it a point to have every nucleus supplied with unsealed larvæ at all times, both to hold the bees and keep them in balance, and to this I believe is due the fact that I never have had the trouble with laying workers that Mr. Alley and others complain of.

I am very careful not to let the cells get chilled, either in or out of the frame, and if the day is cool, I leave the bees on the frame, and only cut the cells as fast as I use them. If the day is warm enough, I take the frame of cells, brush the bees off with a feather (being very careful not to jar the cells) then with the small, thin blade of the knife, cut all but one of the cells, and put the frame back into the hive.

I have a box lined to put the cells in, and cover them with a piece of soft flannel, but distribute as soon as possible, by inserting one in the frame containing larvæ, and marking the frame "i-c-5-11," as well as the tablet, making a combination of the two marks, as "i-c and c-e-5-11"—(imported cell and common eggs, May 11) until all are taken care of.

Go on in this manner, having cells built; forming nuclei for them until you have broken up all the colonies that you wish, and as the bees increase, unite nuclei to make strong colonies with younger bees, for cell-building, which are better for this purpose than older ones; then sub-divide these into nuclei as needed, and so on indefinitely until the close of the season.

Some years I have numbered the hives and kept a book of record, but I always keep the record of the nuclei marked on a tablet and fastened in

front of the hive. I also use tin tags which have two meanings, according to position. They are in three shapes—round, triangular and square—with a hole in the center through which a tinned tack has been pushed to its head and soldered.

The round tag placed on the front of the hive means, "needs cell;" in front of entrance, "think they need cell;" and I look again before giving a cell, and sometimes find a queen, and save the cell. The triangle in front of the hive means, "give larvæ;" and at the entrance, "give larvæ test." The square in front of the hive means, "queen is laying;" at the entrance, "think queen is laying." To illustrate:

I look the next day after giving the cells, to see if they are either torn or hatched; if hatched, I mark the tablet "Q, hatched 5-12;" if the cell appears torn, I do not mark the tablet, but put a round tag at the entrance, as I know that they have means of starting a cell, and I look again in a day or two, and if they have started cups, I change the tag to the front of the hive, and the first time I distribute cells I give them one.

Whenever I find a queen just hatched, and do not find larvæ, I put the triangle on the front of the hive. When I find a nucleus that has no young larvæ, and I do not see a queen, I put the triangle at the entrance, and in both cases give a frame of eggs at my convenience, marking the first "c-e," and the last "c-e-test," giving the date, and also marking the tablet.

When I see a queen that looks as though she was laying, but I find no eggs except in marked frames, I put the square at the entrance, and look again in a day or two, when I can tell certainly. I then change the tag to the front of the hive.

As fast as I find queens laying, I mark the tablet according to their looks and appearance—"A-a—B-b," the B's never being sent away on orders, but used in our own apiaries, the first in the home apiary, and the latter in the out apiaries. The tablet would then read, "i-c and c-e-5-11; hatched 5-12; c-e-5-16; laying, 5-20-A." As part of this record is of no use unless put in a book for reference, take a clean tablet and write with a crayon, "I-Q, laying 5-20-A." When she is removed, I put a round tag on the hive as at first.

In addition to this, if there should be anything unusual that needs attention, I mark a tablet and tack it on the front end of the cover, "need bees," "bees strong," "need feed," "can spare honey," "caged queen," etc., and remove as soon as their wants have been attended to.

I can now go through the yard and at a glance can tell how many need

cells or larvæ; also how many queens are laying, and another glance will tell me the condition of each hive.

As all of these marks are fastened to the hive, it gives the apiary a more tidy appearance than to have a lot of stones on the hives; besides, loose marks are in many ways liable to be accidentally misplaced.

#### AN INCUBATOR IN QUEEN-REARING.

If I have more cells than nuclei to take care of them, and do not wish to make more, I use an "incubator," as we call it. It has a wooden frame slanting in towards the top, and beveled at the corners to fit closely, and having a top with 1½-inch auger holes in it, in which to hang the wire cloth cups for the cells, which are fastened at the top to a wire ring a little larger than the hole, so as to slip the cup in, and catch the wire on the frame; they also have a cover of mica, fastened on one side to form a hinge.

Place this incubator over the center of a full colony, putting the enameled cloth over the space not occupied by the frame, then whenever there is an extra cell, I pin it on the side of one of these cups, drop the cover, and put on a cushion to keep them warm. If there should be a large number of cells, two or three can be put into each cup, and by a little watching (as they can be seen through the mica cover without disturbing anything) the queens can all be saved. I do this by going to some place where I know they have a cell, cut out the cell, put it into the incubator, and drop the young queen off of a soft twig upon the frame, and they are almost certain to accept her.

I am sure to always have either eggs or young larvæ in the hive, to indicate the fact if she should be lost; and I also think that bees are much less liable to be uneasy if they have something to do in the way of housework in caring for the little ones; it also prevents the bees from swarming out when the queen takes her "wedding-flight" and my experience has been entirely in favor of giving, instead of taking away, unsealed larvæ when introducing virgin queens.

#### VIRGIN QUEEN INTRODUCTION.

Virgin queens that are several days old should be put into an introducing cage; but if I was preparing a nucleus especially for that purpose, I would prefer the bees from a queenless nucleus, where a large part were young bees, to taking them out of the upper story, as Mr. Doolittle recommends; both because I think that younger bees would be better, and I would not wish to disturb the bees in the upper story, if they were strong enough, and willing to work in sections—and they must

be, when a nucleus can be taken from the upper story.

I have never daubed or rolled in honey, or used the nasty tobacco smoke, with any kind of a queen to introduce her; in fact, I do little smoking of any kind, deeming that a quiet condition of both bees and queen is essential to success in that line; besides, I do not like to mistreat the harmless creatures that will prove to be our best friends after awhile, the most faithful of all, keeping quietly at work, although we rob them every day; and although they have a sharp weapon of defense, they meekly submit to all our caprices, without a breath of fresh air, or a glimpse of the bright sun, and the pretty flowers with their fragrant odors that are supposed to make the bee-world happy.

The way I prefer to introduce a queen, excepting those that are just hatched, is to put her into the cage as before mentioned, and when the colony is *known*, not *guessed*, to be queenless, place this cage over the top of the frames, having the opening in the cage over the opening between the frames, and having the cage raised a little so that the bees can pass under it and get acquainted with their new "mother," if such she should prove to be; but I should not expect better success with virgin queens so introduced, than with one reared in the hive, for sometimes queens will get lost on their flight, and I would not like to say, as Mr. Doolittle does in his plan of introducing virgin queens, on page 126 of his book on "Queen Rearing:" "They are now to be left for four or five days, when you will find a laying queen (providing that the queen was four or five days old when put into the cage)." Although from a large experience of both myself and others with the introducing cage, I should have no hesitancy in using these words concerning a fertile queen, for I then consider it an almost absolutely sure thing.

I do not open the hive from which I am expecting a queen to fly, neither one close by, during the middle of the day, if it can be avoided. Be very careful not to leave any sweet where the bees can get it during a dearth of honey in the fields, and if the bees are inclined to rob, do not open the hives in regular succession, but change the base of operations awhile; or, if they are too bad, leave them alone until they quiet down. If there should be danger of any one of them being robbed, just set a folding mosquito-bar tent over it, and they will soon find that they are mastered.

#### THE SHIPPING OF QUEENS.

For several years I used the Peet cage, with a hole large enough for the queen to pass, bored into one of the



feed chambers, with a tin slide over the hole in the side, making a combined shipping and introducing cage; but on account of its large opening for the bees, and the tin cover, it is objectionable, although it is the easiest to put the queen and bees in, that I have ever seen. Last season I used some of the Benton cages, with the opening in the wire-cloth, for introducing the queen. Although I am not quite satisfied with any cage that I have ever seen, I think that a combination cage is the only successful way of supplying the trade, for many people have not the time, knowledge or inclination to introduce a queen successfully in any other way.

The candy is made in the old, familiar way, with pulverized sugar and honey mixed until it gets over being sticky, and then pressed very closely into the apertures designed for it, a paper being put over that, and the wire-cloth is tacked on over all.

With the Benton cage, having the opening come over the feed chamber, cut the paper the size of the hole in wire-cloth, and leave the other end loose to put the bees in. Having the provisioned cage ready, I select the nucleus that I wish to take the queen from, open the hive and lift the frames until I find her, when I hang the frame she is on in a comb-holder, keeping my eye upon her; then lift her carefully by the wings, and put her head first into the cage; then in the same manner put about 12 worker bees into the Benton cage, and 20 in the Peet cage, providing the weather is at all cool; a less number may answer in warm weather.

Securely fasten the wire-cloth, then fasten the cover, which is raised a little from the cage for ventilation; besides this, to make doubly sure of giving no trouble to mail agents, tie with a cord both ways around the cage. I like to ship the first of the week, so as not to have the cages left in the post-office or mail-bags over Sunday, and we do not take them to the post-office for the fast mail-train which takes the mail-bag on without stopping, as the sudden jar of taking on the mail might injure the queen.

#### UNITING IN THE FALL.

I select the nucleus having the queen that I wish to be the mother of the colony; lift the frames from the hive they are in, to one that is suitable for wintering; arrange the frames as if it were a full colony, and when they are nicely settled, I take one or two nuclei that I know to be queenless, and shake the bees in front of the prepared hive, distributing the extra brood where there is not a laying queen, to let it hatch out. If this is done in the middle of the day, and I wish to move the

nucleus hive then, I move the nearest hive pretty well up to its former stand to catch the bees flying.

If I want to be sure to get all of the nucleus, I leave the hive with a frame of honey to catch those flying, and, towards night, I brush them into the united colony. I follow this plan until all are united.

I do not know anything about the virgin-queen trade, but I should not expect it to prove satisfactory, neither the rearing of two queens in one hive, except for the purpose of seeing what one could do, just out of curiosity.

Some may think that this has been a chapter of "I's;" but if I have made it plain to you, that you do not need a lot of odd fixtures; that a little care will produce good cells; that unsealed larvae make the bees happy; that queens can be introduced without tobacco or a cup of honey; and that you can mark the hives without bricks, stones or grass, I shall have accomplished more than I expect.

Bedford, Ohio.

#### CONVENTION DIRECTORY.

1890. Time and place of meeting.

July 17.—Carolina, at Charlotte, N. C.  
N. P. Lyles, Sec., Derita N. C.

Sept. 10.—Ionia County, at Ionia, Mich.  
H. Smith, Sec., Ionia, Mich.

Oct. 20-31.—International American, at Keokuk, Ia.  
C. P. Dadant, Sec., Hamilton, Ill.

Oct.—Missouri State, at Mexico, Mo.  
J. W. Rouse, Sec., Santa Fe, Mo.

In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

#### International Bee-Association.

PRESIDENT—HOB. R. L. Taylor, Lapeer, Mich.  
SECRETARY—C. P. Dadant, Hamilton, Ill.

#### National Bee-Keepers' Union.

PRESIDENT—James Heddon, Dowagiac, Mich.  
SEC'Y. AND MANAGER—T. G. Newman, Chicago.

#### SELECTIONS FROM OUR LETTER BOX

#### Results in 1889—Good Prospects.

My report for 1889 was not very encouraging. In the spring I had 10 good colonies to start with, from which I had 20 swarms, 300 pounds of extracted honey, and 150 pounds of comb honey, with no fall honey to speak of. I put 29 colonies into the cellar on Dec. 5, and took out, on April 4, 1890, 24 good colonies, 4 having starved, and one was queenless after that. For over a month bees could not fly half a day, and in that time I had 4 colonies robbed, and 3 swarmed out, and of course were killed by the other bees, which leaves me now 17 colonies. Fruit trees are all in bloom, with good prospects for the season.

W. B. RAY.

Alaska, Wis., June 9, 1890.

#### White Clover and Basswood.

White clover is just beginning to bloom; basswood is promising well as far as plenty of buds are concerned, and both are promising well, if the weather will be so that it will yield honey. But the spring has been so backward that bees did not breed up very fast, so if it does yield, the amount gathered will not be so very large, after all. We had too many frosts in May, and the bees were obliged to cease brood-rearing, or they would have starved—some have actually starved.

JACOB T. TIMPE.

Grand Ledge, Mich., June 7, 1890.

#### Wet Weather—Section Folder.

I keep a few bees in northwest New York. The bees are in a starving condition just now, as there is no honey to be had, on account of wet weather. Apple-bloom did not amount to anything. The white clover is peeking out now, and we hope for a good crop. My bees did well last year. The winter was mild, so they wintered well, and were in good condition this spring.

I have made a foot-power machine to put sections together, and it works well. I can put together 25 in 2 minutes. It is handy and easy to work. I am a stone-cutter and builder, but on account of a gun-shot wound in my right shoulder I had to quit my trade, and so I keep a few bees to help make a living. I wonder whether there are any other comrades who keep bees, or read the great guide for bee-men—the AMERICAN BEE JOURNAL.

M. M. RITTER.

Seneca Co., N. Y., June 9, 1890.

#### Spring Cool and Late.

The winter loss of bees in this part of Iowa was at least 60 per cent., mostly from starvation. I lost 30 colonies out of 95. The honey-flow is very good here now, when the weather will permit the bees to work. Too much rain and cool weather keeps them back about half of the time. Some bee-keepers lost all they had in winter, while others lost a part. The spring has been very late, cold and damp since the first of May. April was dry and cold, though white clover is plentiful, and has plenty of honey in it. If we have good weather soon, we will have a fair crop of honey.

J. R. ESKEW.

Shenandoah, Iowa, June 11, 1890.

#### Wintering Bees—Honey-Dew.

I have been successful in getting my colonies all through the winter and spring, except one that lost its queen, and was robbed while I was away at work. I had one swarm on May 20, it being the only one I have heard of in this vicinity, except 2 that starved out. Bees are booming now on the tulip blossoms and white clover, with a good prospect for basswood in July; but I had to feed them up until about a week ago. I think that one-third of the bees in Western Pennsylvania have died from starvation this spring. Unpardonable neglect killed them. "Anything that is worth having, is worth caring for," is my motto. Double-walled hives packed and covered with some material that will absorb the dampness arising from the bees, and sufficient ventilation, have scored another point over cellar-wintering.

I think that some of the "close confinement" advocates must feel chagrined this year. Has any bee-keeper ever seen a swarm of bees go into a hole in the ground, or into a cellar, of its own accord? I be-

lieve that there are a few stories told of bees being in the rocks in some parts of the world, but is there any proof of it? I think that bees have been found in almost every conceivable place except in a wood-chuck hole, therefore I conclude that they are like the Irishman, who, when asked to dig coal, replied, "Be jabbers, I was born above ground, and I am going to die above ground." But let us hear from the old veterans through the AMERICAN BEE JOURNAL—the *ne plus ultra* of all bee-papers.

The twig referred to on page 364, arrived, but so dried as to be of little use. In my article on page 314, I asked for a dead leaf of last year's growth, as a proof of the assertions of some men that it was *dew*, or that it falls as a spray from the excretory glands of the insect; so the leaf and insects which Mr. Tyrrel sent, are not, in my opinion, any proof of the case, *pro* or *con*. But my bees are of more importance than honey-dew just at present.

T. C. KELLY.

Slippery Rock, Pa., June 9, 1890.

#### Bees in Poor Condition.

Bees are in poor condition here—the worst that I ever knew them at this time of the year.

W. M. WOODWARD.

Bonfield, Ills.

#### Worms in Hives—Starters.

1. When I open the hives, I sometimes find worms on top of the frames. Must I clean off all the propolis found there, in order to remove the worms? 2. Is it necessary for bees to have space between the quilt and frames? 3. Why not let the quilt fit on top of the frames, and keep the worms away from such secure retreats? Recently I took some nice white comb that I had saved over from last year, and cut it in small pieces for starters in sections. I warmed one side of the pieces on a sad-iron, and laid the warm side in the section, where I wanted it, giving the comb a slight downward pressure. It seems to be fast, and looks as if it would invite bees to go to work at once.

J. R. McLENDON.

Naftel, Ala.

Mr. Heddon replies to the above as follows, by request:

First, to get rid of worms, keep Italian bees, and do not let pieces of comb lay around for moth-millers to breed in. No, do not clean off anything in order to get rid of worms; keep the apiary clean and the colonies strong, and they will take care of the interior of the hives. Moths breed outside of the hives in old pieces of comb that you left around carelessly, or else your neighbors do. Do not use any quilts. Put on a board cover with a bee-space beneath it. Second, the combs stuck fast if you melted them; probably not otherwise. Comb foundation is much better than any kind of combs, and also much cheaper.—JAMES HEDDON.

#### Excellent Results Last Season.

There is an abundance of white clover now, and bees are booming. I had 46 colonies last spring, and they gave me 2,000 pounds of extracted honey, and 3,000 pounds of choice comb honey. I expect to do hardly as well this year. One colony, last year, gave me 350 pounds of comb honey in 1½-pound sections, and one swarm, which also gathered 100 pounds. I call that good. My sales of comb honey averaged 14 cents per pound. I have 44 colonies this spring, having lost 2 during the winter from queenlessness.

O. A. CORT.

Frankfort, O., June 9, 1890.

#### Too Rainy for the Bees.

My bees are out of danger now, and in good condition, with a loss of only 2 colonies. In this part of the country, there are very few bee-keepers that did not lose nearly 50 per cent. I claim that what saved my bees, was that I removed them from the cellar at the right time. I did it in February, as they were very uneasy by that time. I think that I am the only one that puts the bees in the cellar late—about the middle of December, and take them out on Feb. 15. We have had rainy weather nearly every day, so the bees have gathered but very little honey yet, but they are ready to swarm at any time if the weather becomes right.

FLORIAN RUEDY.

Buffalo City, Wis., June 7, 1890.

#### Swarming Later than Last Year.

The bees in this part of the country wintered well, but we have had a cold, wet time so far, and not much for the bees to gather. Mine are getting strong, but I think that swarming will be 20 days later than it was last year, but there is a good prospect for plenty of white clover here, and I hope to get some honey from it.

J. P. SADLER.

Kinsale, Ont., June 10, 1890.

#### Big White Clover Bloom.

The prospect for a big crop of honey was never better in this part of the country. Bees are booming on raspberry; there is a big white clover bloom already out, and a grand lot to follow—never was anything like it before. Bees all wintered well around here, and are in good condition for the harvest.

F. E. BURROWS.

Delavan, Wis., June 7, 1890.

#### Good Honey Crop Expected.

We have had a very unfavorable outlook for bees this season. To-day is the first that the bees have done anything this spring. I had to feed them all through May, to keep them breeding. I have 17 colonies in fine condition for the white clover bloom, which is here now. If the weather is favorable, we expect a good crop of honey this season. There is considerable Alsike clover in this vicinity, which beats anything for honey that I have ever seen. My report for the last season was 10 colonies, spring count, increased to 35, by natural swarming, sold 18 colonies, and obtained 1,100 pounds of comb honey in one-pound sections, that sold at home for 12½ cents per pound.

J. F. McALISTER.

Eden, Ills., June 7, 1890.

#### Late Season—Supers for Honey.

Bees wintered well on the summer stands, as all bees are wintered in that way in this valley. Swarming has just commenced, the season being two weeks later than usual. Alfalfa is just beginning to bloom, so the bees will have a boom until the frost kills the bloom in the fall. Alfalfa and Alsike are our best honey-plants in this part of the country. We do not have to plow or hoe to keep the weeds down, either, like the New York man does.

I will try to describe a super that I made and used last summer. If anything like it was ever made, or used, I have not yet known it. It is made the proper size to hold the number of sections required; the end pieces are rabbeted on the inside at the bottom of the case, by using thin slats 1½ inches wide to protect the bottom of the section, nailed to the end pieces. One side

of the super at one end is hung by two small brass hinges, and the other end is fastened by a small hook. By opening the side of the super, you will have free access to the sections. Try it, and report.

F. H. McDONALD.

Star, Idaho, June 2, 1890.

#### Colonies are Very Strong.

Our bees came out of the cellar in good condition, and the colonies are very strong now. White clover is just commencing to bloom here.

C. J. DONALDSON.

Lapeer, Mich., June 9, 1890.

#### HONEY AND BEESWAX MARKET.

NEW YORK, June 5.—There is no comb honey on the market, but a small stock of basswood extracted and California; new Southern extracted is arriving, but the quality is mostly inferior. We quote: Extracted basswood and California, 7c; Southern, 65¢@70c per gallon. Beeswax, scarce at 26¢@28c.

HILDRETH BROS. & SEGELKEN,

28-30 West Broadway.

CHICAGO, June 4.—Demand continues good for strictly white clover honey, and our receipts are being taken as fast as they arrive. What little stock we have, consists of buckwheat in 1 and 2-lb. sections, which is dull and slow sale. We quote: White clover 1-lbs., 12½¢@13½¢; buckwheat, 7¢@9c. Beeswax very scarce at 25¢@26c for bright, and 23¢@24c for dark.

S. T. FISH & CO., 189 S. Water St.

KANSAS CITY, June 5.—The receipts of the old crop of comb honey have been quite liberal the last two weeks. Demand lighter, dealers only buying one case at a time. We quote: White 1-lbs., 13¢@14c; dark 1-lbs., 10¢@12c. Extracted, very slow sale; white, 5¢@6c; dark, 5c. No beeswax in the market.

CLEMONS, CLOON & CO.,

Cor. 4th and Walnut Sts.

CHICAGO, June 5.—Demand is now very light for comb honey, and will be for the ensuing two months. There is not much on the market, and very little of it is in desirable shape for the retail trade, being in supers and just as removed from the hive. Best brings 13¢@14c, and off-grades about 10c. Extracted, 6¢@8c. Beeswax, yellow, 27¢@28c.

R. A. BURNETT, 161 S. Water St.

MILWAUKEE, June 2.—The market for honey is in a fair condition. The old stock is getting out of sight, and values are sustained on choice qualities. We quote: Choice white 1-lb. sections, 13¢@14c; medium 1-lbs., 11¢@12c; dark 1-lbs., 9¢@10c; 2-lbs., normal. Extracted, in barrels and half barrels, white, 7¢@8c; dark, 6¢@6½c. Beeswax, 26¢@30c.

A. V. BISHOP, 142 W. Water St.

DETROIT, June 3.—Best white comb honey, 13¢@14c; other grades, 10¢@15c. Extracted, slow demand at 7¢@8c. Beeswax, 27¢@28c.

M. H. HUNT, Bell Branch, Mich.

KANSAS CITY, June 13.—Market cleaned up on old comb and extracted, and new crop of comb arriving. We quote: White 1-lbs., 15c; dark, 11¢@12c; white 2-lbs., 12¢@13c; dark, 10¢@11c. Extracted, white, 6¢@7c; dark, 5c.

HAMBLIN & BEARSS, 514 Walnut St.

BOSTON, June 11.—Fancy 1-lbs., 16c; 2-lbs., 15c. Extracted, 8¢@9c. Honey sales are very slow. We have recently received a shipment from Michigan, of very fine stock, which is an ample supply for us for the summer.

BLAKE & RIPLEY, 57 Chatham Street.

CINCINNATI, June 10.—Demand for comb honey is slow, and prices nominal. There is but little on the market. Extracted honey is in good demand at 5¢@8c, according to quality. We bought to-day the first 4,000 pounds of new extracted clover honey.

Beeswax is in good demand at 24¢@28c. for good to choice yellow. C. F. MUTH & SON, Corner Freeman & Central Aves.





ALFRED H. NEWMAN,  
BUSINESS MANAGER.

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